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The Cool Copper Collider: An Advanced Concept for a Future Higgs Factory

Thursday 24 August 2023 09:25 (20 minutes)

The goal of a next-generation e^+e^- collider is to carry out precision measurements to percent level of the Higgs boson properties that are not accessible at the LHC and HL-LHC. In this talk we will present the study of a new concept for a high gradient, high power accelerator with beam characteristics suitable to study the Higgs boson, the Cool Copper Collider (C3), with the goal of significantly reducing capital and operating costs. C3 is based on the latest advances in rf accelerator technology and utilizes optimized cavity geometries, novel rf distribution and operation a cryogenic temperatures to allow the linear accelerator to achieve high accelerating gradients while maintaining overall system efficiency. We will present the latest demonstrated performance of prototype accelerators and highlight the future development path for C3.

Collaboration / Activity

C3

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